The genus *Uroleucon* (Hemiptera: Aphididae: Macrosiphini) in Argentina, with descriptions of five new species

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Abstract—*Uroleucon* is one of the largest genera of Macrosiphini, with 216 known species; it is one of the few genera of Aphidinae to have a diversification in South America, with 15 native species and 1 subspecies. Moreover, 7 introduced species have been recorded in South America. Five new species from Argentina are described herein: *Uroleucon malarguense* Ortego and Nieto Nafría, **sp. nov.**, *U. mendocinum* Mier Durante and Ortego, **sp. nov.**, *U. patagonicum* Nieto Nafría and Seco Fernández, **sp. nov.**, *U. payuniense* Ortego and Nieto Nafría, **sp. nov.**, and *U. riojanum* Nieto Nafría and Mier Durante, **sp. nov.** One Palearctic species, *U. jaceae* (Linnaeus), has been recorded for the first time in South America, and thus 28 species and 1 subspecies are now known from South America. *Uroleucon essigi* Carvalho and *U. chilense* (Essig) are recorded for the first time from Argentina, and 20 of these 29 taxa are known for this country. New morphological and bionomic data from some previously known species are given. Alate viviparous females of *U. gochnatiae* Delfino and oviparae and males of *U. bereticum* (Blanchard) and *U. macolai* (Blanchard) are described. A taxonomic discussion about native South American species of *Uroleucon* is given, and we include them at present in the subgenus *Lambersius*. A key is provided for the identification of apterous and alate viviparous females.

Résumé—Avec 216 espèces connues, *Uroleucon* est l'un des plus importants genres de Macrosiphini, il est en outre l'un des rares genres d'Aphidinae qui se soit diversifié en Amérique du Sud; il est représenté sur ce continent par 15 espèces et une sous-espèce endémiques auxquelles il convient d'ajouter 7 espèces introduites. Cinq nouvelles espèces sont décrites d'Argentine : *Uroleucon malarguense* Ortego et Nieto Nafría, **sp. nov.**, *U. mendocinum* Mier Durante et Ortego, **sp. nov.**, *U. patagonicum* Nieto Nafría et Seco Fernández, **sp. nov.**, *U. payuniense* Ortego et Nieto Nafría, **sp. nov.**, and *U. riojanum* Nieto Nafría et Mier Durante, **sp. nov.** L'espèce paléarctique *U. jaceae* (Linnaeus) est mentionnée pour la première fois en Amérique du Sud. À ce jour 28 espèces et une sous-espèce sont recensées dans cette zone. *Uroleucon essigi* Carvalho et *U. chilense* (Essig) sont citées pour la première fois de l'Argentine; et 20 de ces 29 taxa sont connus de ce pays. Nouvelles données morphologiques et bionomiques de quelques sont apportées. Les femelles vivipares ailées d'*U. gochnatiae* Delfino et les sexués (ovipares et mâles) d'*U. bereticum* (Blanchard) et d'*U. macolai* (Blanchard) sont décrits. La position taxonomique des espèces endémiques sud-américaines d'*Uroleucon* est discutée; nous proposons de les placer dans le sous-genre *Lambersius*. Une clé d'identification des femelles vivipares aptères et ailées est présentée.

Introduction

The genus *Uroleucon* Mordvilko, 1914 is one of the largest of the group of genera with reticulated siphunculi belonging to the large tribe Macrosiphini (Hemiptera: Aphididae: Aphidinae). It is divided into six subgenera: *Uroleucon*, *Uromelan* Mordvilko, 1914,

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Lambersius Olive, 1965, *Belochilum* Börner, 1932, *Satula* Olive, 1963, and *Diviun* Pashtshenko, 2000, which include, respectively, 115, 59, 39, 1, 1, and 1 known species. It is habitually accepted that the nominotypical subgenus and *Uromelan* are Holarctic and *Lambersius* is American and possibly Nearctic, owing to the distribution of most of their respective species. The only known species of each of the three minor subgenera is European, North American, and Far Eastern Asiatic, respectively (Remaudière and Remaudière 1997; Carvalho *et al.* 1998; Pashtschenko 2000, 2001; Kadyrbekov *et al.* 2002; Lee *et al.* 2002; Kadyrbekov 2003; Delfino and Gonzáles 2005).

The separation of the three big subgenera of *Uroleucon* is based on the caudal and siphuncular pigmentations, although some other characters are also used. In *Uroleucon* sensu stricto and *Uromelan* the siphunculi are dark or very dark and usually homogeneously pigmented (if there is a less pigmented portion, it is not the proximal one). They differ from each other in that the cauda is strongly pigmented like the siphunculi in *Uromelan* and evidently less pigmented in the nominotypical subgenus. In *Lambersius* the siphunculi are pale along their entire length, or at least on a more or less extensive proximal portion, and the caudal pigmentation varies.

Twenty-three valid species of *Uroleucon* are known from South America (Blanchard 1922, 1932, 1939; Essig 1953; Eastop and Hille Ris Lambers 1976; Smith and Cermeli 1979; Delfino 1991, 1994; Nieto Nafría *et al.* 1994; Remaudière and Remaudière 1997; Carvalho *et al.* 1998; Ortego 1998; Ortego *et al.* 2004; Delfino and Gonzáles 2005). Eight of them are introduced species: *Uroleucon aeneum* (Hille Ris Lambers, 1939), *U. compositae* (Theobald, 1915), and *U. sonchi* (Linnaeus, 1767) are Palearctic in origin, and *U. aaroni* (Knowlton, 1949), *U. ambrosiae* (Thomas, 1878), *U. erigeronense* (Thomas, 1878), *U. gravicorne* (Patch, 1919), and *U. rudbeckiae* (Fitch, 1815) are native to North America. The other 15 species are native to South America and were described from Chile or Argentina: *U. bereticum* (Blanchard, 1922) (including its synonyms *U. cocoense* (Blanchard, 1932) and *U. cordobense* (Blanchard, 1932)), *U. brevisiphon* Carvalho, 1998, *U. chilense* (Essig, 1953) (including its synonym *U. huantanum* (Essig, 1953)), *U. essigi* Carvalho, 1998, *U. eumadiae* Delfino and Gonzáles, 2005, *U. garnicai* Delfino, 1991, *U. gochnatiae* Delfino, 1994, *U. littorale* (Blanchard, 1939), *U. macolai* (Blanchard, 1932), *U. muermosum* (Essig, 1953), *U. nuble* (Essig, 1953), *U. petrohuense* Carvalho, 1998, *U. pseudomuermosum* Carvalho, 1998, *U. tessariae* Delfino, 1994, and *U. tucumani* (Essig, 1953). Twelve species (four introduced and eight native) are recorded from Argentina (Ortego *et al.* 2004).

Carvalho *et al.* (1998), using multivariate analysis of morphological characters of both South American and North American species of the genus, showed that the South American autochthonous species are (*i*) a monophyletic group that is well separated from the North American species of *Lambersius* and (*ii*) a homogeneous group regardless of the siphuncular and caudal pigmentation and coloration when alive. In spite of this they did not establish a new subgenus, as it was not possible to make a morphological diagnosis of the group (R. Blackman, personal communication), and neither was the subgeneric position given. Following the rules of zoological nomenclature, it could be argued that *U. essigi*, *U. petrohuense*, *U. brevisiphon*, and *U. pseudomuermosum* remain implicitly placed in the nominotypical subgenus. However, because of their pigmentation, *U. essigi* and *U. petrohuense* should be included in the subgenus *Lambersius*, and *U. brevisiphon* and *U. pseudomuermosum* could be placed in the subgenus *Uroleucon*, although the caudal pigmentation leads us to think the two latter species should be placed in the subgenus *Uromelan*.

Based on the analysis of several sequences of mitochondrial and nuclear DNA of several North American and European *Uroleucon* species, Moran *et al.* (1999) established that (*i*) the North American species group of the subgenus *Lambersius* is possibly monophyletic but not a highly related group; (*ii*) the Nearctic *Uromelan* species are a monophyletic group, show a possible relationship with Nearctic *Lambersius* species, and are not related to European *Uromelan* species; and (*iii*) the Nearctic members of the genus *Uroleucon* are a closely related monophyletic group not allied with Nearctic *Uromelan* or *Lambersius* species; instead, they belong to a clade containing European members of both *Uroleucon* and *Uromelan*. They also wrote "Levels of pigmentation of coxae, anal plate and genital plate are strongly correlated yet independent of levels of pigmentation of other parts, such as cauda, abdominal scleroites,

antennae and tibiae. Most Old World species of either *Uroleucon* and *Uromelan* have darkly pigmented coxae, anal and genital plate; in contrast, most American *Lambersius*, *Uroleucon* and *Uromelan* share the feature of pale coxae, anal plate and genital plate. This similarity between Nearctic representatives of three subgenera appears to result from convergence." However, they did not establish new subgenera or a different classification, perhaps because they considered the pigmentation of the coxae to be a homoplasic character or the quantity of studied species to be insufficient, or because of the difficulties in clearly determining the diagnostic characters of each subgenus.

Although we agree with Carvalho *et al.* (1998) that "firmer conclusions will require more studies on North American *Lambersius* species", we also think that greater knowledge of the diversity and distribution of the *Uroleucon* species in South America is necessary. This is the aim of the present work, and for this reason we prospected interesting areas on the Andean side of Argentina and visited the type localities of the several little-known species.

Materials and methods

We studied 153 samples from 61 localities in 12 Argentinean provinces, and also 14 samples from 10 localities in 5 Chilean regions. Collectors are as follows: J. Ortego, M.P. Mier Durante, and J.M. Nieto Nafría, samples from January and February 2000 and November 2002; J.M. Nieto Nafría, samples from Santa Fe province, 1995; I. Bertolaccini (Universidad Nacional del Litoral, Esperanza, Santa Fe, Argentina), samples from Santa Fe province, 2000, and Entre Ríos province, 2005; J. Ortego, the other samples. Several host plants were identified or checked by A. Dalmasso, E. Martínez, and E. Méndez (Instituto Argentino de Investigaciones de las Zonas Áridas, Mendoza, Argentina).

The techniques we used for catching, conserving, slide-mounting, and measuring aphids are those commonly used in aphidology (Nieto Nafría and Mier Durante (1998) provided a detailed explanation with drawings). Note that the length, percentage of total length, and quantity of cells of the reticulate part of siphunculi correspond to the dorsal part of the structure; ventrally the portion is a bit bigger and there is at least the same quantity of cells.

Aphid identifications were based on data from Carvalho *et al.* (1998), Blanchard (1922, 1932, 1939), Essig (1953), Delfino (1991, 1994), and Delfino and Gonzáles (2005) and also from MacGillivray (1968), Moran (1984), Olive (1963, 1965), Palmer (1952), Robinson (1985, 1986, 1988), Hille Ris Lambers (1939), and Heie (1995). These articles have also been the source of useful data on bionomics and distribution.

Abbreviations used in the text and figure captions are as follows: AbdII, AbdIII, AbdIV, AbdV, AbdVI, AbdVII, and AbdVIII are abdominal segments II to VIII; AntI, AntII, AntIII, AntIV, and AntV are antennal segments I to V, and AntVIb and AntVIpt are base and processus terminalis of antennal segment VI; *D* is basal diameter of antennal segment III; Ht2 is second segment of hind tarsus; and Urs is ultimate rostral segment. A value in parentheses before or after another one is an exceptional value.

Results and discussion

Eighteen species were identified from the Argentinean samples, the 13 known species *Uroleucon aeneum*, *U. ambrosiae* with the subspecies *U. a. lizerianum* (Blanchard, 1922), *U. bereticum*, *U. chilense* (first record from Argentina), *U. erigeronense*, *U. essigi* (first record from Argentina), *U. garnicai*, *U. jaceae* (Linnaeus, 1758) with the nominotypical subspecies (first record from Argentina and South America), *U. gochnatiae*, *U. macolai*, *U. sonchi*, *U. tessariae*, and *U. tucumani*, plus five new species: *Uroleucon malarguense* Ortego and Nieto Nafría, **sp. nov.**, *U. mendocinum* Mier Durante and Ortego, **sp. nov.**, *U. patagonicum* Nieto Nafría and Seco Fernández, **sp. nov.**, *U. payuniense* Ortego and Nieto Nafría, **sp. nov.**, and *U. riojanum* Nieto Nafría and Mier Durante, **sp. nov.**, which are described below. The plant hosts, localities, and dates are detailed in Table 1.

Seven species were identified from the Chilean samples: *U. bereticum*, *U. brevisiphon*, *U. erigeronense*, *U. macolai*, *U. pseudomuermosum*, *U. sonchi*, and *U. tessariae*. The plant hosts, localities, and dates are detailed in Table 1.

Table 1. Studied material.

Province or region	Locality	Date	Host plant (Asteraceae)	*Uroleucon* species
Argentina				
Buenos Aires	Buenos Aires	10.x.2002	Asteraceae, indeterminate	*U. ambrosiae lizerianum* (Blanchard, 1922)
		24.iv.2001	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
Chubut	Epuyén	19.i.2000	*Carduus nutans*	*U. aeneum* (Hille Ris Lambers, 1939)
	Trevelín	20.i.2000	*Mutisia spinosa*	*U. patagonicum* **sp. nov.**
	Trevelín: Nant y Fall	20.i.2000	*Conyza bonariensis*	*U. bereticum* (Blanchard, 1922)
Córdoba	Mina Clavero	22.i.1997	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		22.i.1997	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
	Nono	23.i.1997	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
	San Alberto: Pampa de Achala	5.i.2005	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
	Yacanto de Calamuchita	10.i.2005	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
Entre Ríos	Concordia	21.iv.2005	*Eupatorium candolleanum*	*U. chilense* (Essig, 1953)
La Rioja	Alpasinche	26.xi.2002	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
	Alto Jagüé	25.xi.2002	*Baccharis salicifolia*	*U. essigi* Carvalho, 1998
	Chilecito: Cuesta de Miranda	26.xi.2002	Asteraceae, indeterminate	*U. gochnatiae* Delfino, 1994
		26.xi.2002	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
		26.xi.2002	*Gutierrezia iserni*	*U. riojanum* **sp. nov.**
	Chilecito: Sierra Sañogasta	26.xi.2002	*Baccharis salicifolia*	*U. tucumani* (Essig, 1953)
	Los Tambillos	26.xi.2002	*Hyaloceris cinerea*	*U. gochnatiae* Delfino, 1994
Mendoza	General Alvear	23.xi.2001	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		21.v.1996	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		21.v.1996	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
	Junín	24.iii.2004	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		26.iii.2004	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		23.xi.2004	*Flaberia bidentis*	*U. ambrosiae lizerianum* (Blanchard, 1922)
	Las Heras: Monumento Canota	30.xi.2002	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
	Luján de Cuyo: Drumond	14.iii.2004	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
	Maipú	18.xi.2002	*Baccharis juncea*	*U. mendocinum* **sp. nov.**
		26.v.2002	*Bidens* sp.	*U. ambrosiae lizerianum* (Blanchard, 1922)
		5.v.2004	*Calendula offcinale*	*U. ambrosiae lizerianum* (Blanchard, 1922)
		5.iv.2001	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		5.v.2001	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		17.iv.2004	*Erigeron* sp.	*U. bereticum* (Blanchard, 1922)
		17.iv.2004	*Erigeron* sp.	*U. erigeronense* (Thomas, 1878)
		18.xi.2002	*Helianthus* sp.	*U. ambrosiae lizerianum* (Blanchard, 1922)

Table 1 (*continued*).

Province or region	Locality	Date	Host plant (Asteraceae)	*Uroleucon* species
		26.iii.2004	*Hysterionica jasionoides*	*U. erigeronense* (Thomas, 1878)
	Maipú: Chachingo	18.xi.2002	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
	Malargüe	17.iii.1996	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		17.iv.1996	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		16.xi.1996	*Baccharis salicifolia*	*U. essigi* Carvalho, 1988
		16.xi.1996	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		20.xi.1996	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
		25.i.1994	*Carduus nutans*	*U. aeneum* (Hille Ris Lambers, 1939)
		2.ii.1996	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		8.iii.1996	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		12.iv.1996	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
	Malargüe: Agua Escondida	6.xi.1997	*Gochnatia glutinosa*	*U. gochnatiae* Delfino, 1994
		6.xi.1997	*Grindelia chiloensis*	*U. payuniense* **sp. nov.**
	Malargüe: Borbarán	11.ii.1997	*Baccharis* sp.	*U. bereticum* (Blanchard, 1922)
		27.xi.1997	*Grindelia chiloensis*	*U. payuniense* **sp. nov.**
	Malargüe: Carapacho	16.xi.1996	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
		23.xii.1996	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
	Malargüe: Cuesta los Terneros	5.v.1996	*Hysterionica jasionoides*	*U. essigi* Carvalho, 1988
		5.v.1996	*Hysterionica jasionoides*	*U. macolai* (Blanchard, 1932)
	Malargüe: El Azufre	26.iii.2002	*Hypochoeris* sp.	*Uroleucon malarguense* **sp. nov.**
		12.iii.2003	*Hypochoeris* sp.	*Uroleucon malarguense* **sp. nov.**
	Malargüe: El Chihuido	14.ii.2002	*Centaurea solstitialis*	*U. jaceae jaceae* (Linnaeus, 1758)
		27.i.2003	*Centaurea solstitialis*	*U. jaceae jaceae* (Linnaeus, 1758)
	Malargüe: Las Chacras	22.iv.1996	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
	Malargüe: Las Lagunitas	19.iv.1998	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
	Malargüe: Pata Mora	12.xi.1997	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
	Malargüe: Agua Escondida	12.xi.1997	*Tessaria absinthioides*	*U. tessariae* Delfino, 1994
	Mendoza	22.vii.1995	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		8.ii.2000	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		17.viii.1996	*Bidens subalternans*	*U. ambrosiae lizerianum* (Blanchard, 1922)
		8.ii.2000	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		17.viii.1996	Vagrant	*U. sonchi* (Linnaeus, 1767)
	Pareditas	13.ii.1997	*Baccharis* sp.	*U. essigi* Carvalho, 1988
	Potrerillos	22.iii.2002	*Proustia cuneifolia*	*U. macolai* (Blanchard, 1932)
		21.xi.2002	*Baccharis salicifolia*	*U. tucumani* (Essig, 1953)

Table 1 (*continued*).

Province or region	Locality	Date	Host plant (Asteraceae)	*Uroleucon* species
		13.xi.2004	*Baccharis salicifolia*	*U. tucumani* (Essig, 1953)
		21.xi.2002	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		21.xi.2002	*Eupatorium patens*	*U. garnicai* Delfino, 1991
		21.xi.2002	*Parthenium histerophorus*	*U. tucumani* (Essig, 1953)
	San Carlos: Paso de las Carretas	29.iv.2000	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		1.xi.1998	*Conyza bonariensis*	*U. bereticum* (Blanchard, 1922)
		1.xi.1998	*Conyza bonariensis*	*U. erigeronense* (Thomas, 1878)
		29.iv.2000	*Hysterionica jasionoides*	*U. erigeronense* (Thomas, 1878)
	San Rafael	22.iii.1998	Asteraceae, indeterminate	*U. ambrosiae lizerianum* (Blanchard, 1922)
		6.xi.1995	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		22.v.1996	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		2.xi.1998	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
		22.iv.1999	*Chrysanthemum* sp.	*U. ambrosiae lizerianum* (Blanchard, 1922)
		30.iii.1998	*Cichorium intybus*	*U. ambrosiae lizerianum* (Blanchard, 1922)
		10.x.1998	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		10.x.1998	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		2.xi.1998	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		2.xi.1998	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		3.x.1997	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
		2.xi.1998	*Tessaria absinthioides*	*U. tessariae* Delfino, 1994
	San Rafael: Cuesta Terneros	9.iii.1998	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
		7.ii.2000	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
		7.ii.2000	*Gochnatia glutinosa*	*U. gochnatiae* Delfino, 1994
		7.ii.2000	*Hysterionica jasionoides*	*U. bereticum* (Blanchard, 1922)
		7.ii.2000	*Hysterionica jasionoides*	*U. erigeronense* (Thomas, 1878)
	San Rafael: Dique Agua del Toro	8.v.1996	*Cichorium intybus*	*U. ambrosiae lizerianum* (Blanchard, 1922)
	San Rafael: Los Reyunos	7.ii.2000	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		7.ii.2000	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
	San Rafael: Punta del Agua	1.i.2000	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
	Tunuyán: Los Árboles	21.xi.2002	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
	Tupungato	17.vii.1997	*Aster* sp.	*U. ambrosiae lizerianum* (Blanchard, 1922)
	Tupungato: Cruz Negra	21.xi.1997	*Baccharis* sp.	*U. erigeronense* (Thomas, 1878)
		21.xi.1997	*Baccharis* sp.	*U. essigi* Carvalho, 1988
		21.xi.1997	*Baccharis* sp.	*U. tucumani* (Essig, 1953)
		21.xi.2002	*Baccharis* sp.	*U. macolai* (Blanchard, 1932)

Table 1 (*continued*).

Province or region	Locality	Date	Host plant (Asteraceae)	*Uroleucon* species
		10.xii.1997	*Baccharis* sp.	*U. tucumani* (Essig, 1953)
	Tupungato: La Carrera	21.xi.2002	*Baccharis salicifolia*	*U. essigi* Carvalho, 1988
		21.xi.2002	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		21.xi.2002	*Carduus* sp.	*U. aeneum* (Hille Ris Lambers, 1939)
		21.xi.2002	*Eupatorium buniifolium*	*U. garnicai* Delfino, 1991
	Ugarteche	21.xi.2002	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		21.xi.2002	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		21.xi.2002	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
		21.xi.2002	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
	Villavicencio: 1240 m	30.xi.2002	*Baccharis* sp.	*U. tucumani* (Essig, 1953)
		30.xi.2002	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
	Villavicencio: 1450 m	30.xi.2002	*Carduus* sp.	*U. aeneum* (Hille Ris Lambers, 1939)
Neuquén	El Huecú	27.i.2000	*Centaurea solstitialis*	*U. jaceae jaceae* (Linnaeus, 1758)
	Lago Tromen	23.i.2000	*Mutisia spinosa*	*U. patagonicum* **sp. nov.**
	San Martín de los Andes	25.i.1999	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		22.i.2000	*Carduus nutans*	*U. aeneum* (Hille Ris Lambers, 1939)
Río Negro	San Carlos de Bariloche	19.i.2000	*Conyza boelckei*	*U. bereticum* (Blanchard, 1922)
		19.i.2000	*Conyza bonariensis*	*U. bereticum* (Blanchard, 1922)
San Juan	Barreal	5.xi.1996	*Baccharis salicifolia*	*U. essigi* Carvalho, 1988
		5.xi.1996	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		10.x.2002	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
		18.xi.2002	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
	Calingasta: Tamberías	23.xi.2002	*Tessaria absinthioides*	*U. tessariae* Delfino, 1994
	Iglesia	6.xi.1996	*Baccharis spartioides*	*U. essigi* Carvalho, 1988
		6.xi.1996	*Baccharis spartioides*	*U. tucumani* (Essig, 1953)
San Luis	La Carolina	11.iv.2000	Asteraceae, indeterminate	*U. bereticum* (Blanchard, 1922)
		11.iv.2000	Asteraceae, indeterminate	*U. erigeronense* (Thomas, 1878)
		11.iv.2000	*Bidens* sp.	*U. tucumani* (Essig, 1953)
		11.iv.2000	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
		11.iv.2000	*Conyza* sp.	*U. tucumani* (Essig, 1953)
	El Trapiche	19.xi.2002	*Baccharis* sp. 1	*U. tucumani* (Essig, 1953)
		19.xi.2002	*Baccharis* sp. 2	*U. tucumani* (Essig, 1953)
		19.xi.2002	*Baccharis* sp. 3	*U. tucumani* (Essig, 1953)
		10.iv.2004	*Baccharis* sp.	*U. ambrosiae lizerianum* (Blanchard, 1922)
	Potrero de los Funes	19.xi.2002	*Cirsium* sp.	*U. aeneum* (Hille Ris Lambers, 1939)

Table 1 (*concluded*).

Province or region	Locality	Date	Host plant (Asteraceae)	*Uroleucon* species
	San Luis	19.xi.2002	*Carduus nutans*	*U. aeneum* (Hille Ris Lambers, 1939)
		19.xi.2002	*Conyza* sp.	*U. erigeronense* (Thomas, 1878)
Santa Cruz	El Calafate	14.i.1996	*Sonchus* sp.	*U. sonchi* (Linnaeus, 1767)
Santa Fe	Esperanza	8.ix.1995	Asteraceae, indeterminate 1	*U. ambrosiae lizerianum* (Blanchard, 1922)
		8.ix.1995	Asteraceae, indeterminate 2	*U. ambrosiae lizerianum* (Blanchard, 1922)
		8.ix.1995	Asteraceae, indeterminate 3	*U. sonchi* (Linnaeus, 1767)
		8.ix.1995	*Calendula officinalis*	*U. ambrosiae lizerianum* (Blanchard, 1922)
		20.ix.1995	*Cirsium* sp.	*U. aeneum* (Hille Ris Lambers, 1939)
		8.ix.1995	*Lactuca sativa*	*U. sonchi* (Linnaeus, 1767)
		8.ix.1995	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
		20.ix.1995	*Taraxacum officinale*	*U. ambrosiae lizerianum* (Blanchard, 1922)
	Rafaela	26.xii.2000	*Carduus acanthoides*	*U. aeneum* (Hille Ris Lambers, 1939)
		19.xii.2000	*Conyza bonariensis*	*U. erigeronense* (Thomas, 1878)
		22.xii.2000	*Sonchus* sp.	*U. sonchi* (Linnaeus, 1767)
Chile				
I. Tarapacá	Arica	13.xii.2000	*Tessaria absinthioides*	*U. tessariae* Delfino, 1994
VII. Maule	Constitución	1.ii.2000	*Sonchus oleraceus*	*U. sonchi* (Linnaeus, 1767)
	Curicó	12.iii.2004	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)
	Paso Pehuenche	2.ii.2000	*Baccharis* sp.	*U. erigeronense* (Thomas, 1878)
		2.ii.2000	*Baccharis linearis*	*U. macolai* (Blanchard, 1932)
	San Clemente	2.ii.2000	Asteraceae, indeterminate	*U. erigeronense* (Thomas, 1878)
VIII. Bío-Bío	San Fabián de Alico	12.iii.2004	*Baccharis* sp.	*U. bereticum* (Blanchard, 1922)
		12.iii.2004	*Baccharis salicifolia*	*U. macolai* (Blanchard, 1932)
IX. Araucania	Molco	7.iii.2004	*Baccharis* sp.	*U. brevisiphon* Carvalho, 1998
X. Los Lagos	Pucomo	8.iii.2004	Asteraceae, indeterminate	*U. bereticum* (Blanchard, 1922)
		8.iii.2004	Asteraceae, indeterminate	*U. pseudomuermosum* Carvalho, 1998
	Petrohué	10.iii.2004	*Baccharis* sp.	*U. bereticum* (Blanchard, 1922)
		10.xii.2004	*Baccharis* sp.	*U. bereticum* (Blanchard, 1922)
	Puerto Ramírez	12.xii.2004	*Conyza* sp.	*U. bereticum* (Blanchard, 1922)

Previously known species

Morphological characteristics of known forms

The ranges of variation of some qualitative and (or) quantitative data of several species have been slightly extended, especially those of *Uroleucon garnicai*, *U. gochnatiae*, *U. tessariae*, *U. essigi*, and *U. pseudomuermosum*, which were known only from their respective type series (Delfino 1991, 1994; Carvalho *et al.* 1998), but these new ranges of variation are not striking in any case.

We have verified that the pigmentation of apterous viviparous females of *U. macolai* is highly variable, as follows: (*i*) setiferous sclerites vary from almost invisible to black; (*ii*) antennae vary from slightly smoked to very dark along most of their length; (*iii*) legs vary from uniformly pale yellow to pale brown with apex of femora, apex of tibiae, and tarsi dark brown; (*iv*) cauda varies from yellowish to brown; and (*v*) siphunculi vary from pale yellow, like cauda and tibiae, to very dark brown. Something similar is observed in alate viviparous females. We have not seen any relationship between these character variations and the host plants and (or) times of collection.

We have also verified similar variability in apterous viviparous females of *U. bereticum*, although the presence of setiferous sclerites is very infrequent. But in this species the darker specimens (in which it is not possible to observe a pale proximal portion of siphunculi) are the most southern, specifically specimens from Chile and from the Argentinean provinces Chubut and Río Negro.

New forms

Uroleucon gochnatiae, *alate viviparous females*

Based on one specimen caught on *Gochnatia glutinosa* (Asteraceae), Malargüe (Mendoza, Argentina), 6.xi.1997. Very similar to the apterous viviparous females, but marginal sclerites on AbdII to AbdIV (coloured as the siphunculi and the genital plate) present and more extensive and intense pigmentation on head, antennae, thorax, and legs. AntIII with 12–15 secondary sensoria distributed over nearly its total length. Measurements (in mm): body = 1.19; AntIII = 0.51–0.53; AntIV = 0.40–0.42; AntV = 0.35–0.37; AntVIb = 0.14–0.15; AntVIpt = 0.53; Urs = 0.15; Ht2 = 0.15; siphunculus = 0.47; reticulated part of siphunculus = 0.23; cauda = 0.24.

Uroleucon bereticum, *oviparous females*

Based on one specimen caught on an unidentified Asteraceae, Pucomo (Los Lagos Region, Chile), 8.iii.2004. Very similar in general appearance and pigmentation to the well-pigmented apterous viviparous females, but with pale proximal portion of siphunculi. Hind tibiae uniformly pigmented, relatively thinner, and with 144–150 small scent plates restricted to proximal half. Genital plate pale at the middle, with 13 discal setae. AntIII with 28–29 secondary sensoria distributed over nearly whole segment. Measurements (in mm): body = 3.11; AntIII = 0.87–0.88; AntIV = 0.58–0.59; AntV = 0.50–0.52; AntVIb = 0.17–0.18; AntVIpt = 0.94; Urs = 0.17; Ht2 = 0.15; siphunculus = 0.66; reticulated part of siphunculus = 0.10–0.12; cauda = 0.54.

Uroleucon bereticum, *males (winged)*

Based on one specimen caught with the oviparous females. Very similar in general appearance and pigmentation to the alate viviparous females, but with more evident intersegmental sclerites. AntIII and AntIV with 39–45 and 5–16 secondary sensoria, respectively, distributed over nearly whole length; AntV with 5–11 secondary sensoria more densely scattered on the distal 1/3. Measurements (in mm): body = 2.60; AntIII = 0.76–0.79; AntIV = 0.59–0.62; AntV = 0.50–0.51; AntVIb = 0.16; AntVIpt = 0.93–0.96; Urs = 0.16; Ht2 = 0.14; siphunculus = 0.41–0.42; reticulated part of siphunculus = 0.06–0.07; cauda = 0.32 (long-triangular and with 11 setae).

Uroleucon macolai, *oviparous females*

Based on 7 specimens caught on *Baccharis* sp. (Asteraceae), Malargüe (Mendoza, Argentina), 17.iv.1996. Very similar in general aspect and pigmentation to the well-pigmented apterous viviparous females, but the cauda is more robust and almost as dark as the siphunculi. Setiferous dorsal sclerites present on one or more thoracic segments and all abdominal segments. AntIII with 6–13 secondary sensoria restricted to the proximal half of the segment. Hind tibiae moderately swollen with 112–157 small scent plates placed on proximal 1/2 to 2/3. Genital plate wrinkled, with a white central spot and 6–12 discal setae. Measurements (in mm): body = 2.85–3.22; AntIII = 0.62–0.83; AntIV = 0.50–0.62; AntV = 0.45–0.51;

AntVIb = 0.16–0.18; AntVIpt = 0.94–0.99; Urs = 0.15–0.16; Ht2 = 0.15–0.16; siphunculus = 0.58–0.71; reticulated part of siphunculus = 0.12–0.13; cauda = 0.43–0.50.

Uroleucon macolai, *males (winged)*

Based on 15 specimens caught with the oviparous females. Very similar in general appearance and pigmentation to the alate viviparous females, but with a dorsal pigmented bar on AbdVIII and frequently on AbdVII. AntIII, AntIV, and AntV with 33–41, 7–16, and 7–16 secondary sensoria, respectively, distributed over nearly whole segment. Measurements (in mm): body = 2.20–2.40; AntIII = 0.67–0.78; AntIV = 0.59–0.73; AntV = 0.52–0.60; AntVIb = 0.17–0.19; AntVIpt = 0.91–1.01; Urs = 0.14; Ht2 = 0.14–0.15; siphunculus = 0.35–0.43; reticulated part of siphunculus = 0.06–0.08; cauda = 0.21–0.23 (long-triangular and with 9–10 setae).

Bionomic characteristics

Uroleucon bereticum seems to prefer species of *Conyza* (Asteraceae). *Hysterionica jasionoides* (Asteraceae) is a new host plant.

Uroleucon chilense was caught for the first time on *Eupatorium candolleanum* (Asteraceae).

Uroleucon essigi, which was described on *Baccharis* sp., lives on at least two species of this genus, *B. salicifolia* and *B. spartioides*, and also (though apparently infrequently) on *Hysterionica jasionoides*, a new host plant.

Uroleucon garnicae prefers *Eupatorium bunifolium*, on which it was described, but it can also live on *E. patens*, a new host plant.

Uroleucon gochnatiae usually lives on *Gochnatia glutinosa* (Asteraceae) but it is not restricted to this plant, as we also collected it on *Hyaloceris cinerea* (Asteraceae), a new host plant.

Uroleucon macolai has a very wide nutritional range (Carvalho *et al.* 1998, and our data), but it seems to prefer species of *Baccharis* (*B. linearis*, *B. salicifolia*, and *B. spartioides*). *Hysterionica jasionoides* and *Proustia cuneifolia* (Asteraceae) are new host plants.

Uroleucon tucumani had two known host species, *Baccharis coridifolia* and *B. melastomaefolia*, but we caught it on two other species of *Baccharis*, *B. salicifolia* and *B. spartioides*, on *Parthenium histerophorus*, and on unidentified species of *Bidens* (Asteraceae) and *Conyza*, all of which are new host plants.

New species

Uroleucon malarguense Ortego and Nieto Nafría, sp. nov.

(Figs. 1–3)

Type material

Holotype: apterous viviparous female "ARG-629, ap5 / *Uroleucon malarguense* / HOLOTIPO // *Hypochoeris* sp. / Malargüe - El Azufre (Mza.) 26-III-02 / J.O. *leg.* (781)"; collection of the University of León, Department of Animal Biology (León, Spain). **Paratypes:** 11 apterous viviparous females, 82 oviparous females, and 37 males from the same sample as the holotype; collections of the University of León (León, Spain), J. Ortego (Mendoza, Argentina), Natural History Museum (London, United Kingdom), and Muséum national d'Histoire naturelle (Paris, France). Other examined material: apterae caught on the same host plant at the same locality on 12.iii.2003.

Etymology

The specific name is derived from the name of the inhabitants of Malargüe, a very important place in the study of aphid diversity in the Andean part of Argentina.

Diagnosis

Aphids brown or red-brown when alive. Light brown to brown coxae, but not as dark as distal portion of femora. First tarsal segments with 5 setae. AntIII with 2–4 secondary sensoria over 33%–44% of the segment length in apterae. AntVIpt 4.7–6.2 times as long as AntVIb. Siphunculi cylindrical, dark brown, 1.5–1.7 times length of cauda, reticulated in 19.6%–25.5% of their length, and with small flange. Cauda light brown to brown and with 9–14 setae.

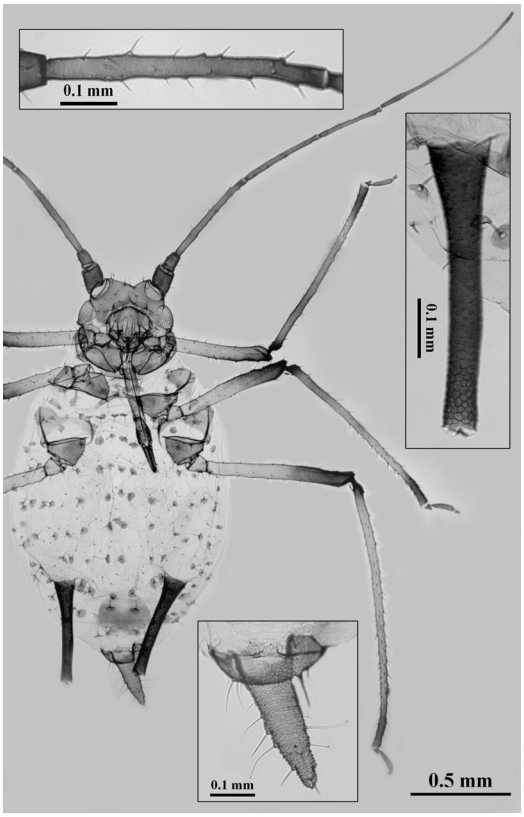
Description

Apterous viviparous females

Based on 12 specimens. Colour in life brown or red-brown. Body length 2.05–2.35 mm. Head (dorsal and ventral sides, clypeus and rostrum) light brown like trochanters, and dorsally smooth. Frontal margin sinuate. Dorsal-cephalic setae pale, thick with blurred apex, and 45–55 μm long, 1.5–2.2 times *D*. Antennae 2.20–2.80 mm long and 1.0–1.2 times body length; AntI–AntIII nearly smooth and at least as

pigmented as the cephalic dorsum, but a proximal area of AntIII can be lighter; rest of antennal flagellum similar in pigmentation but scaly. AntIII 0.49–0.61 mm long; setae 28–40 μm, 1.0–1.6 times *D*, with blurred or debilitated apex; 2–4 small secondary sensoria placed on ventral side of 33% (44%) of segment. AntIV and AntV 0.41–0.52 and 0.32–0.43 mm long, respectively. AntVIpt 0.66–0.85 mm long, 1.3–1.5 times AntIII and 4.7–6.2 times AntVIb, which is 0.12–0.16 mm. Rostrum extends to hind coxae or first abdominal segment. Urs dark brown, 0.15–0.16 mm long, 2.5–3.1 times its basal width, 1.0–1.3 times AntVIb and 1.1–1.3 times Ht2, which is 0.12–0.13 mm; 5–8 secondary setae present. Legs with three levels of pigmentation: (*i*) trochanters, basal 1/2(2/3) of femora, and most of tibiae approximately like dorsum of head; (*ii*) coxae more pigmented than trochanters; and (*iii*) distal 1/3 to 1/2 of femora, small proximal and distal portions of tibiae, and tarsi more or less dark like the antennal flagella. Hind femur and tibia 0.72–0.90 and 1.30–1.65 mm long, respectively. First tarsal segments with 5 setae. Without marginal papillae or intersegmental sclerites on abdomen (they are present on thorax). Pleural or more extended patches on prothorax; stigmatic and setiferous sclerites present and pigmented from mesothorax to AbdVII–AbdVIII; postsiphuncular sclerites frequently present but small and irregular in shape. Dorsal setae on AbdI–AbdV pale, 3–4 marginal each side and 8–13 spinal-pleural, the last ones are 45–65 μm long and 1.5–2.4 times *D*. Ventral setae on AbdII–AbdVI thinner and more pointed than dorsal ones, 18–28 per segment. Siphunculus dark brown, like the antennal flagella, 0.49–0.61 mm long, 1.5–1.7 times cauda and 1.0–1.1 times AntIII, nearly cylindrical with enlarged base (1.8–2.2 times the width at the beginning of the reticulation) and small apical flange; reticulated over 19.6%–25.5% of its length and with approximately 28–50 cells; portion basal to the reticulate part has homogeneously distributed groups of spinules. Genital plate paler than coxae and darker than anal plate and with 2 discal and 8–13 marginal setae. AbdVIII with 4(5) setae. Cauda light brown to brown, like the anal plate and paler than the siphunculi, ensiform, 0.30–0.38 mm long and 1.9–2.6 times its basal width, with 9–14 setae in all, 1–2 dorsal and shorter and thinner than others.

Fig. 1. *Uroleucon malarguense*, apterous viviparous female, habitus and details of AntIII, siphunculi, and cauda.



Oviparous females

Based on 82 specimens (15 measured). Body length 1.91–2.50 mm. Similar to the apterous females but more intensively pigmented, especially genital plate and cauda; longer setae on vertex (45–60 μm, 1.6–2.2 times *D*), AntIII (35–45 μm, 1.3–1.8 times *D*), and AbdIII (55–70 μm, 2.0–2.6 times *D*); and shorter AntIII (0.46–0.60 mm), AntIV (0.39–0.50 mm), hind femora (0.65–0.86 mm), hind tibiae (1.20–1.58 mm), Ht2 (0.11–0.13 mm), and siphunculi (0.47–0.62 mm, 1.6–1.8 times cauda, and 17.9%–24.5% reticulated). Hind tibiae slightly swollen, with (23)50–80(112) scent plates. Genital plate, AbdVIII, and cauda with 21–35, 4–6, and 14–20 setae, respectively. AntIII with 0–3 secondary sensoria.

Males (winged)

Based on 37 specimens (15 measured). Body length 1.82–2.10 mm. Head, clypeus, rostrum,

Fig. 2. *Uroleucon malarguense*, oviparous female, habitus and details of AntIII, siphunculi, and cauda.

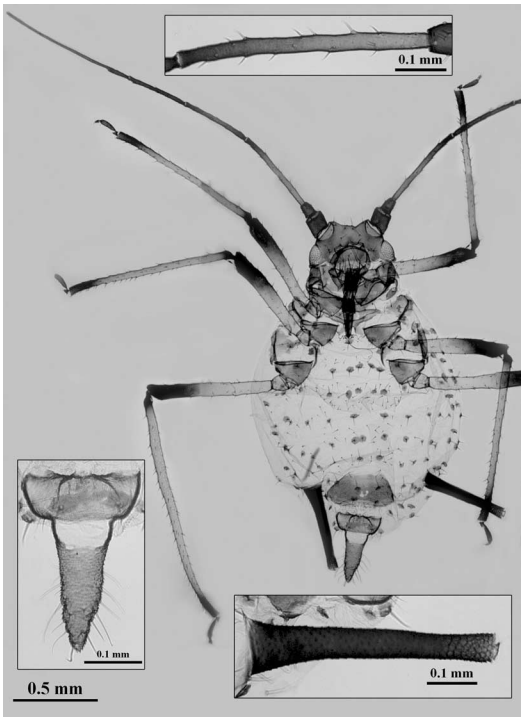
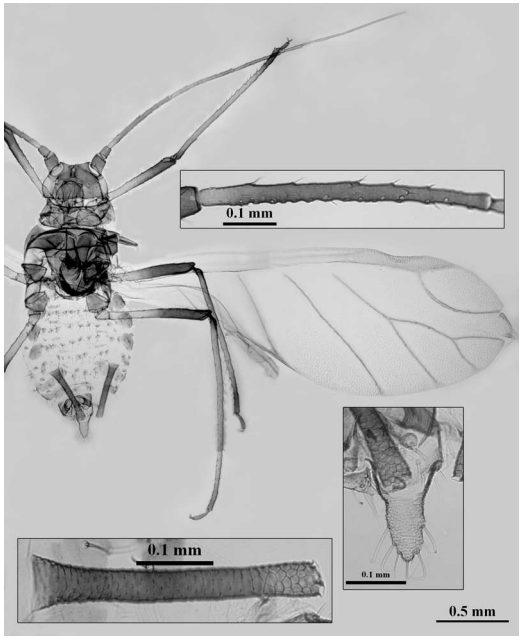


Fig. 3. *Uroleucon malarguense*, male, habitus and details of AntIII, siphunculi, and cauda.



antennae (small proximal portion of AntIII excepted), most of femora, tibiae, tarsi, and siphunculi dark brown; abdominal sclerites (setiferous and marginal on AbdII–AbdVII, presiphuncular and postsiphuncular included) brown; coxae, trochanters, parameres, anal plate, and cauda light brown. With regard to other characteristics, they are similar to apterous females but have relatively longer antennae (1.2–1.4 times body length), longer AntIV (0.41–0.58 mm) and AntV (0.35–0.48 mm), shorter setae on vertex (30–40 μm) and AntIII (25–35 μm), and shorter hind femora (0.57–0.84 mm), hind tibiae (0.85–1.55 mm), siphunculi (0.30–0.43 mm, 0.6–0.8 times AntIII, 4.4–7.6 times their basal width, with 18–40 cells in reticulated part), and cauda (0.16–0.21 mm, 1.2–1.9 times its basal width), which has 7–10 setae. AntIII, AntIV, and AntV with 23–40, 9–22, and 3–10 secondary sensoria, respectively, distributed along ventral side.

Bionomics

The species is holocyclic and monoecious on a species of *Hypochoeris* that is probably a new species of Asteraceae (E. Martínez, personal communication).

Geographical distribution

The only known locality for the species is Malargüe: El Azufre (35°19′S, 70°25′W, 2615 m). The species may also colonize its host plant in several other localities in the south of Mendoza province, where the plant lives (A. Dalmasso and E. Martínez, personal communication), and perhaps other related species growing in high Andean places.

Uroleucon mendocinum Mier Durante and Ortego, sp. nov.

(Figs. 4–5)

Type material

Holotype: apterous viviparous female "ARG-635, ap8 / *Uroleucon mendocinum* / HOLOTIPO // *Baccharis juncea* / Maipú (Mendoza) 18-XI-02 / J.O.+M.D.+N.N. *leg*."; collection of the University of León, Department of Animal Biology (León, Spain). **Paratypes:** 136 apterous viviparous females and 102 alate viviparous females from the same sample as the holotype; collections of the University of León (León, Spain), J. Ortego (Mendoza, Argentina),

Natural History Museum (London, United Kingdom), and Muséum national d'Histoire naturelle (Paris, France).

Etymology

The specific name is derived from the name of the inhabitants of the Argentinean province of Mendoza.

Diagnosis

Aphids reddish brown with white cauda, light brown legs (partially), and brown to dark brown antennal flagella and siphunculi when alive. Pale coxae. First tarsal segments with 5 setae. AntIII with 12–22 secondary sensoria over 44%–64% of the segment length in apterae and usually 26–36 secondary sensoria in alatae. AntVIpt 4.5–6.0 times as long as AntVIb. Siphunculi subcylindrical, brown to dark brown, 1.2–2.5 times as long as cauda, usually reticulated on 16.7%–19.1% of their length, and with small flange. Cauda brownish to brown with 12–15 setae.

Description

Apterous viviparous females

Based on 137 specimens (24 measured). Colour in life reddish-brown with white cauda, light brown legs (partially), and brown to dark brown antennal flagella and siphunculi. Body length 2.650–3.400(3.650) mm. Head (dorsal and ventral sides, clypeus and rostrum) brown, like coxae and trochanters; dorsally poorly corrugate. Frontal sinus developed and medial tubercle approximately 1/3 height of lateral ones. Dorsal-cephalic setae pale, thick with blurred apex (exceptionally pointed), and 45–65 μm long, 1.4–2.2 times *D*. Antennae 2.800–3.500 mm long and 0.9–1.2 times body length (big specimens have relatively shorter antennae); AntI and AntII a bit more corrugated and pigmented than the cephalic dorsum and at least as pigmented as wrinkly proximal portion of AntIII; rest of antennal flagellum brown to dark brown and scaly. AntIII 0.65–0.87 mm long; setae 35–45 μm, 1.1–1.5 times *D*, with blurred or debilitated apex; 12–22(29) small, irregular, and sometimes geminated secondary sensoria placed on ventral side of proximal 44%–64% of segment. AntIV and AntV 0.52–0.69 and 0.44–0.60 mm long, respectively. AntVIpt 0.75–0.89(1.00) mm long, 1.0–1.3 times AntIII and 4.5–6.0 times AntVIb, which is 0.15–0.17 mm. Rostrum extending to middle coxae. Urs dark brown, 0.15–0.17 mm long, 2.0–3.2 times its basal width, 0.6–0.8 times AntVIb and 0.9–1.1 times Ht2, which is 0.16–0.19 mm; (4)6–8 secondary setae. Most of femora and tibiae pale like coxae, but the distal portion (variable in length) of both segments is darker, as pigmented as antennal flagella and tarsi. Hind femur and tibia 0.95–1.25 and 1.77–2.08 mm long, respectively. First tarsal segments with 5 setae. Without marginal papillae or intersegmental sclerites on abdomen (they are present on thorax). Stigmatic abdominal sclerites pigmented like coxae. Setiferous sclerites from prothorax or mesothorax to AbdVII or AbdVIII, sometimes pleural ones form a small patch; postsiphuncular sclerites frequently present but small, irregular in shape, and darker than setiferous ones. Dorsal setae on AbdI–AbdV pale, 3–5 marginal on each side and 9–13 spinal-pleural, these are 50–65 μm long and 1.5–2.2 times *D*. Ventral setae on AbdII–

Fig. 4. *Uroleucon mendocinum*, apterous viviparous female, habitus and details of AntIII, siphunculi, and cauda.

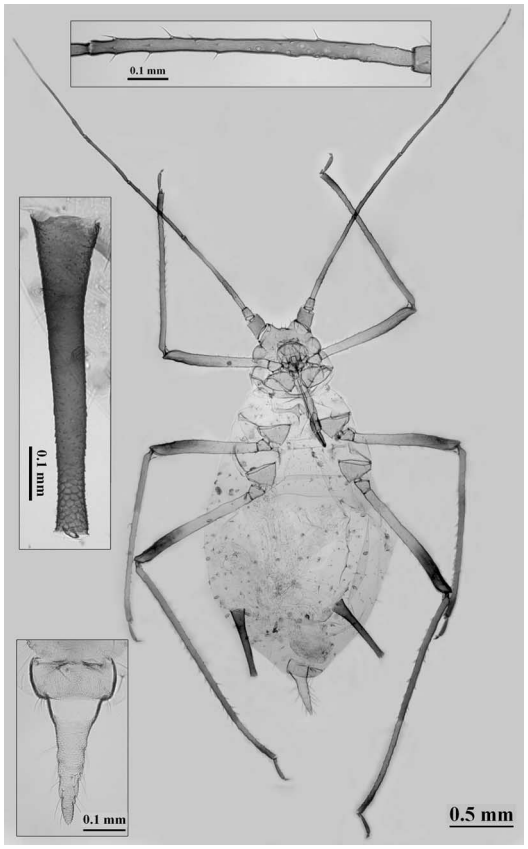
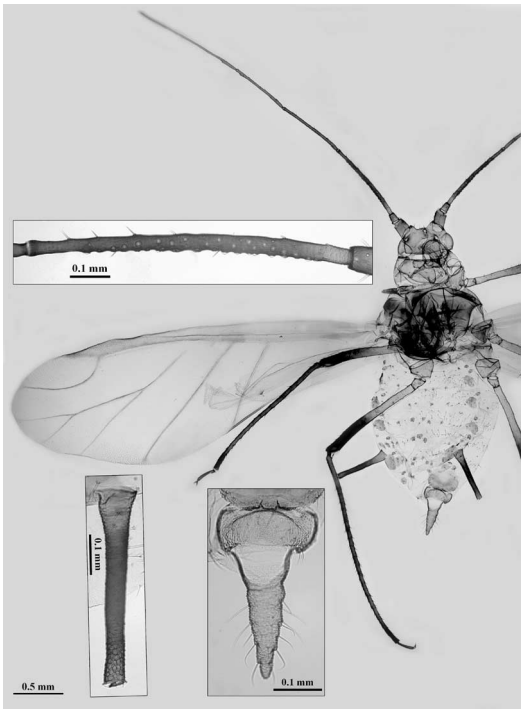


Fig. 5. *Uroleucon mendocinum*, alate viviparous female, habitus and details of AntIII, siphunculi, and cauda.



AbdVI thinner and more pointed than dorsal ones, 20–46 per segment. Siphunculus 0.49–0.68 mm long, 1.2–1.5 times cauda and 0.7–0.8 times AntIII, with small apical flange, nearly cylindrical with enlarged base (1.9–2.8 times the width at the beginning of the reticulation), brown to dark brown, sometimes with a basal portion light brown, reticulated over (13.5%)16.7%–19%(21.2%) of its length and with approximately 24–36 cells, and scaly basal to reticulations but with a medial part nearly smooth. Genital plate as pale as anal plate and with 2–3 discal, 0–5 submarginal, and (7)14–19 marginal setae. AbdVIII with 3–5 setae. Cauda usually brownish but brown in several well-pigmented specimens, ensiform, 0.38–0.46 mm long, 1.9–2.3 times its basal width, and with 12–15 setae, several dorsal ones shorter and thinner than others.

Alate viviparous females

Based on 102 specimens (23 measured). Body length 2.45–3.33 mm. Similar to the apterous females but head and thorax brown; more intense pigmentation around ocelli; light brown marginal sclerites on AbdII–AbdIV present and with 5–8 setae; more intensively pigmented antennae and legs; smaller setae (40–50, 30–45, and 45–60 μm on vertex, AntIII, and AbdIII, respectively); shorter hind femur and tibia (0.90–1.13 and 1.67–2.13 mm, respectively), Ht2 (0.15–0.18 mm), siphunculi (0.41–0.57 mm, 0.6–0.7 times AntIII, 1.2–1.6 times cauda), and cauda (0.30–0.38 mm, 1.6–2.1 times its basal width); and longer antennae (2.75–3.45 mm), AntIII to AntVIb (0.63–0.85, 0.52–0.73, 0.45–0.61, 0.15–0.19 mm, respectively), AntVIpt (0.75–1.00 mm, 1.1–1.4 times AntIII and 4.4–6.5 times AntVIb), and reticulated area of siphunculus (18%–26%). AntIII with (20)26–36 secondary sensoria extended on (70%)79%–91% of length of the article, (29)35–51 sensoria per mm. Medial of forewings with three branches.

Bionomics

The species forms dense colonies on the aerial part of *Baccharis juncea* (a native Asteraceae), mainly on the branches and on stems that are not too thick. This aphid should be monoecious, like all species of the genus, and probably holocyclic; it may colonize related species of its known host plant.

Geographical distribution

The only known locality for *Uroleucon mendocinum* is Maipú (33°01′S, 68°47′W, 829 m). It is possible that the species colonizes its host plant in other parts of the plain to the east of the Andes in Mendoza province and perhaps in a large part of South America, because *B. juncea* is widely distributed in Argentina, Bolivia, Chile, and Uruguay (Zuloaga and Morrone 1999).

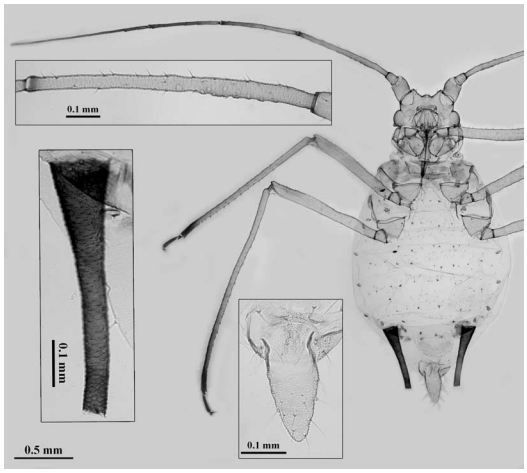
Uroleucon patagonicum Nieto Nafría and Seco Fernández, sp. nov.

(Figs. 6–7)

Type material

Holotype: apterous viviparous female "ARG-460, ap2 / *Uroleucon patagonicum* / HOLOTIPO / *Mutisia spinosa* / Lago Tromen (Neuquén) 23-I-00 / M.D.+J.O.+N.N. *leg*."; collection of the University of León, Department of Animal Biology (León, Spain). **Paratypes:** 14 apterous viviparous females from the same sample as the holotype and 90 apterous and 34

Fig. 6. *Uroleucon patagonicum*, apterous viviparous female, habitus and details of AntIII, siphunculi, and cauda.



alate viviparous females from Trevelin (Chubut), 20.i.2000, on the same host plant; collections of the University of León (León, Spain), J. Ortego (Mendoza, Argentina), Natural History Museum (London, United Kingdom), and Muséum national d'Histoire naturelle (Paris, France).

Etymology

The specific name is derived from the name of Patagonia, a large natural region in Argentina and Chile where Chubut and Neuquén provinces are.

Diagnosis

Aphids shining red vermilion with cauda white, siphunculi dark brown to black, and antennae and distal part of leg brownish red when alive. Pale coxae. First tarsal segments with 5 setae. Dorsal-posterior part of head with 6–10 setae. AntIII with 12–21 secondary sensoria over 40%–57% of the segment length in apterae and 29–40 secondary sensoria in alatae. AntVIpt 3.1–4.7 times as long as AntVIb. Siphunculi subcylindrical, mostly dark brown, 1.7–2.8 times as long as cauda, reticulated on 11%–18% of their length, and with small flange. Cauda pale, triangular or long-pentagonal in shape, usually with 9–12 setae. In alatae wing veins distinctly pigmented.

Description

Apterous viviparous females

Based on 105 specimens (30 measured). Colour in life shining red vermilion with cauda white, siphunculi dark brown to black, and antennae and distal part of leg brownish red. Body length 2.32–2.90 mm. Head light brown, darker than coxae, and delicately corrugate. Frontal sinus well developed and medial tubercle approximately 1/3 height of antennal ones. Dorsal-cephalic setae pale, thick, pointed or with blurred apex, and 40–60 μm long, 1.1–1.7 times *D*; 6–8(9) setae present on posterior part of dorsum, 2–3 of them shorter than others (usually *Uroleucon* species have 4 setae in this position). Antennae 3.10–3.53 mm long and 1.1–1.4 times body length, in general as pigmented as cephalic dorsum; AntI and AntII wrinkly; AntIII wrinkly to scaly, with brownish extreme apex, 0.71–1.03 mm long; its setae are 25–50 μm long, 0.6–1.3 times *D*, and have blurred or debilitated apex; (8)12–21 small and more or less circular secondary sensoria are placed on ventral side of proximal 40%–57% of segment length; AntIV scaly, 0.53–0.77 mm long, and with brownish extreme apex; AntV 0.52–0.82 mm long and with a more extended dark distal portion; AntVI brown to dark brown, darker than cephalic dorsum and as pigmented as distal portion of AntV; AntVIpt 0.64–0.98 mm long, 0.7–1.3 times AntIII and 3.1–4.7 times AntVIb, which is 0.18–0.25 mm. Rostrum extends to middle coxae and is generally light brown, like coxae. Urs brown, 0.14–0.16 mm long, 1.5–3.2 times its basal width, 0.6–0.8 times AntVIb and 0.8–1.0 times Ht2, which is 0.15–0.17 mm; 4–6(7) secondary setae. Dorsum of prothorax and several patches on mesothorax as pigmented as head; trochanter, femora, and most of tibiae as pale as coxae, apex of tibiae and tarsi brown. Hind femur and tibia 0.90–1.15 and 1.30–2.15 mm long, respectively. First tarsal segments normally with 5 setae, but sometimes 4 or 3 on some legs. Without marginal papillae or intersegmental sclerites on abdomen. Stigmatic, setiferous (from metathorax to AbdVII), and postsiphuncular sclerites present and darker than coxae. Dorsal setae on AbdI–AbdV pale, 1–2 marginal each side and 5–13 spinal-pleural, these are 40–50 μm long and 1.1–1.4 times *D*. Ventral setae on AbdII–AbdVI thinner and more pointed than dorsal ones, 20–33 per

segment. Siphunculus subcylindrical with enlarged base (2.0–3.4 times the width at the beginning of the reticulation), 0.45–0.66 mm long, 1.7–2.8 times cauda and 0.6–0.8 times AntIII, a little curved inside, with apical flange scarcely developed, and brown, but frequently with both proximal and distal parts darker than the middle part, which is as pigmented as coxae; reticulated on 11.1%–18.0%(21.2%) of its length, with approximately 20–36 cells, and scaly basal to reticulations. Genital and anal plates as pale as coxae, the first one with 2 discal, 0–9 submarginal, and 10–20 posterior setae. AbdVIII somewhat sclerotized but not pigmented (at most like cauda), with 4–6 setae. Cauda yellowish, paler than head, more or less triangular or long-pentagonal, 0.22–0.30 mm long, 1.2–1.7 times its basal width, and with (7)9–12(15) setae, several of them shorter and thinner than others.

Alate viviparous females

Based on 34 specimens (6 measured). Body length 2.40–2.63 mm. Similar to the apterous females but head and thorax brown; more intense pigmentation around ocelli; marginal sclerites on AbdII–AbdIV present, light brown and pigmented, and sometimes 4 patches on AbdVII; antennal pigmentation darker and more extended; mid-distal part of femora light brown; smaller setae (30–50, 20–30, and 30–40 μm on vertex, AntIII, and AbdIII, respectively); shorter Urs (0.13–0.14 mm, 0.8–0.9 times Ht2); shorter siphunculi relative to AntIII (0.5–0.6 times AntIII); longer reticulated area on siphunculi (14%–22%); and more setae on AbdII–AbdV (5–7 marginal each side and 13–16 spinal-pleural). AntIII with 29–40 secondary sensoria extended along nearly total length of the article. Veins of forewings darkly pigmented, medial with three branches.

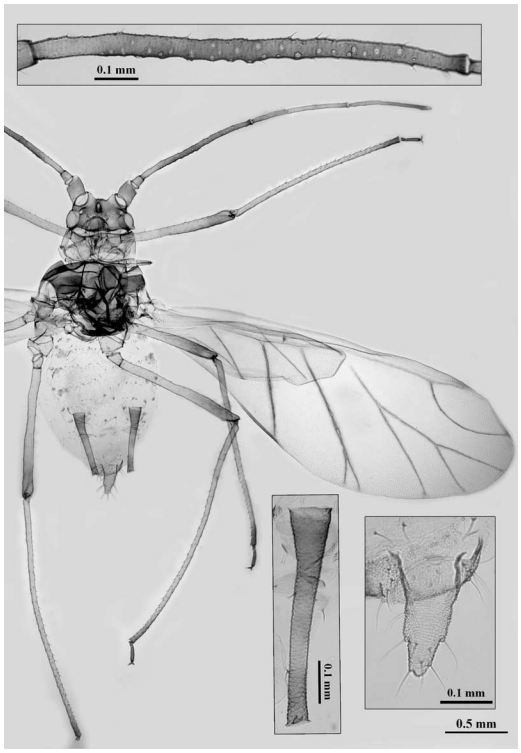
Bionomics

The native species *Mutisia spinosa* (Asteraceae) is the only known host plant for this aphid, which is possibly holocyclic and monoecious, as are the other species of the genus. Aphids form closed colonies on young shoots.

Geographical distribution

Uroleucon patagonicum is known in Trevelin (Chubut, 43°06′S, 71°28′W, 935 m) and Lago Tromen (Neuquén, 39°34′S, 71°26′W, 1088 m), but it might be found in other areas where its host plant grows, specifically in Chubut, Neuquén, Río Negro, and Santa Cruz provinces and in Chile (Zuloaga and Morrone 1999).

Fig. 7. *Uroleucon patagonicum*, alate viviparous female, habitus and details of AntIII, siphunculi, and cauda.



Uroleucon payuniense Ortego and Nieto Nafría, sp. nov.

(Figs. 8–9)

Type material

Holotype: apterous viviparous female "ARG-244, áp3 / *Uroleucon payuniense* / HOLOTIPO // *Grindelia chiloensis* / 6-XI-97 / Malargüe: Agua Escondida (Mendoza) / J. Ortego *leg*. (472)"; collection of the University of León, Department of Animal Biology (León, Spain). **Paratypes:** 6 apterous viviparous females and 3 alate viviparous females from the same sample as the holotype and 4 apterous viviparous females and 1 alate viviparous female on the same plant from Malargüe: Borbarán (Mendoza), 27.xi.1997; collections of the University of León (León, Spain), J. Ortego

(Mendoza, Argentina), Natural History Museum (London, United Kingdom), and Muséum national d'Histoire naturelle (Paris, France).

Etymology

The specific name is derived from the name of the Payunia phytogeographic district in Argentinean Patagonia.

Diagnosis

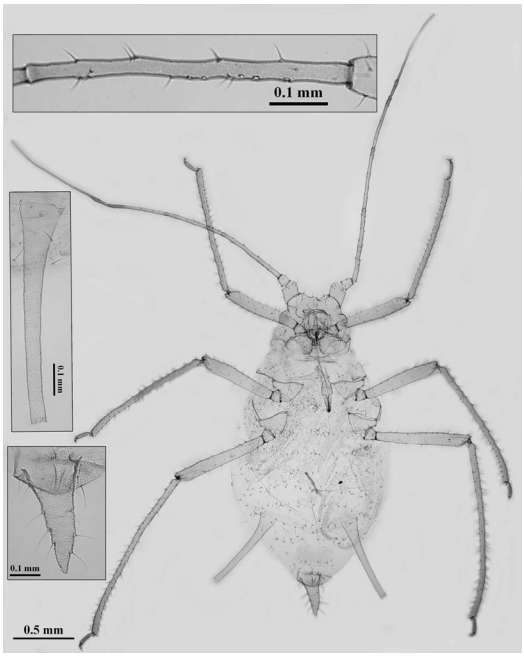
Aphids green when alive. Pale coxae. First tarsal segments with 5 setae. Clypeus slightly voluminous. Dorsal-posterior part of head with 6–10 setae, and abundant dorsal setae. AntIII with 6–12 secondary sensoria usually extended over 50%–66% of the segment length in apterous viviparous females and with 10–13 secondary sensoria in alatae. AntVIpt 4.0–5.7 times length of AntVIb. Siphunculi scarcely pigmented, 1.9–2.4 times length of cauda, reticulated on 12.2%–18.9% of their length, with scarcely developed flange. Cauda yellow to light brown, with 6–9 setae. Medial vein of forewing with two branches.

Description

Apterous viviparous females

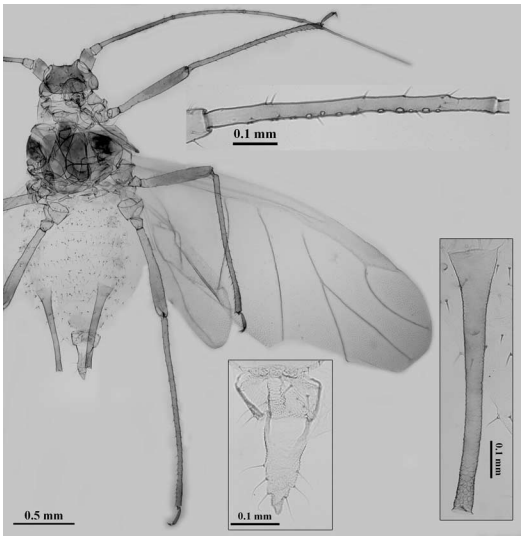
Based on 11 specimens. Colour in life green with dark green pleural-abdominal patch. Body length 2.50–3.03 mm. Head smooth and brownish yellow, approximately as pigmented as coxae; median frontal tubercle as developed as lateral ones. Dorsocephalic setae numerous (6–10 setae present on posterior part of head), pale, 45–55 μm long, 1.3–1.7 times *D*, thick with apex blurred or slightly clavate, similar in shape to antennal, femoral, tibial, dorsothoracic and dorsoabdominal ones. Clypeus slightly more voluminous than in other *Uroleucon* species, pigmented like the cephalic dorsum. Antennae 2.45–2.98 mm long and 0.9–1.2 times body length; AntI–AntII pigmented like cephalic dorsum; AntIII–AntVIb variably pigmented, from similar to cephalic dorsum and with apex of segments light brown to homogeneously brown except for extreme proximal portion of AntIII; AntI to AntIII smooth; AntIII 0.50–0.73 mm long, with 6–12 small and circular secondary sensoria ventrally aligned on proximal 50%–66%(72%) of its length; setae 35–45 μm long, 1.1–1.4 times *D*; AntIV and AntV 0.43–0.60 and 0.39–0.51 mm long, respectively. AntVIpt 0.60–0.90 mm long, 1.0–1.6 times AntIII and 4.0–5.7 times AntVIb, which is 0.14–0.20 mm.

Fig. 8. *Uroleucon payuniense*, apterous viviparous female, habitus and details of AntIII, siphunculi, and cauda.



Rostrum extends near to hind coxae and is, in general, pigmented like cephalic dorsum. Urs 0.15–0.16 mm long, 1.9–2.7 times its basal width, 0.8–1.1 times AntVIb and 1.0–1.2 times Ht2, which is 0.13–0.15 mm; 7–10 secondary setae. Leg pigmentation progressively increases from pale coxa, trochanter, and proximal half of femora to tarsus; hind femur and tibia 0.77–1.00 and 1.45–1.76 mm long, respectively. First tarsal segments with 5 setae. Marginal papillae and stigmatic, intersegmental, presiphuncular, and postsiphuncular sclerites absent, sometimes several small and scarcely pigmented setiferous sclerites present. Dorsal setae on AbdI–AbdV very abundant, 6–10 marginal each side and 16–27 spinal-pleural, these are 50–60 μm long, 1.5–1.9 times *D*. Ventral abdominal setae thin and pointed, 20–36 per segment. Siphunculus cylindrical with enlarged base (2.4–4.3 times the width at the beginning of the reticulation) and apical flange scarcely developed; 0.53–0.90 mm long, 1.9–2.4 times cauda and 1.0–1.4 times AntIII; in general pigmented like tibiae but paler on proximal 1/4; reticulated on 12.2%–18.9% of its length, with approximately 30–45 cells; wrinkly basal to reticulations but nearly smooth at base. Genital plate pigmented like coxae, with 2(4) discal and 8–11 small

Fig. 9. *Uroleucon payuniense*, alate viviparous female, habitus and details of AntIII, siphunculi, and cauda.



posterior setae. AbdVIII with 5–7 setae. Cauda yellowish to very light brown, as dark as anal plate and darker than genital plate, lanceolate, 0.27–0.37 mm long, 1.7–2.5 times its basal width, and with 6–9 long and strong setae.

Alate viviparous females

Based on 4 specimens. Body length 2.25–2.63 mm. Similar to the apterous females but head and thorax brown and light yellowish brown; marginal sclerites present on AbdII–AbdIV, with 6–12 setae on each one; smaller setae (40, 25–35, and 35–50 µm on vertex, AntIII, and AbdIII, respectively); longer antennae (up to 1.3 times body length), AntV (0.43–0.53 mm), AntVIpt (0.87–0.92 mm), and reticulated area on siphunculus (14.3%–22.4%); relatively longer siphunculus (at least 2.2 times length of cauda); and more caudal setae (up to 10). AntIII with 10–13 secondary sensoria extended on 74%–92% of segment length. Medial vein of forewings with only two branches.

Bionomics

The only known host plant of this aphid is *Grindelia chiloensis* (Asteraceae). Sexuals are unknown, but the species should be holocyclic.

Geographical distribution

The species is known from Malargüe in the south of Mendoza province (Argentina) from two places: Agua Escondida (36°09′S, 68°18′W, 1100 m) and Borbarán (35°56′S, 68°37′W, 1940 m). It may live on *G. chiloensis* in other Argentinean localities, mainly in the northern regions of Patagonia. It must be infrequent, as we have habitually searched on this plant, which is also the host plant of other aphid species, and colonies have not been found.

Uroleucon riojanum Nieto Nafría and Mier Durante, sp. nov.

(Figs. 10–11)

Type material

Holotype: apterous viviparous female "ARG-751, áp1 / *Uroleucon riojanum* / HOLOTIPO // *Gutierrezia iserni* / Cuestas de Miranda (La Rioja) 26-XI-02 / JO+MD+NN *leg*."; collection of the University of León, Department of Animal Biology (León, Spain). **Paratypes:** 13 apterous viviparous females and 5 alate viviparous females from the same sample as the holotype; collections of the University of León (León, Spain), J. Ortego (Mendoza, Argentina), Natural History Museum (London, United Kingdom), and Muséum national d'Histoire naturelle (Paris, France).

Etymology

The specific name is derived from the Argentinean province named La Rioja.

Diagnosis

Aphids green with partly black siphunculi, legs, and antennae and white cauda when alive. Pale coxae. First tarsal segments with 5 setae. Dorsal-posterior part of head with 4–6 setae. AntIII with 7–11 secondary sensoria over 44%–63% of the segment length in apterae and 18–26 secondary sensoria in alatae. AntVIpt 3.7–4.9 times length of AntVIb. Siphunculi robust, 2.1–2.6 times length of cauda, reticulated on 21%–31% of their length, without flange and basally pale. Cauda more or less pigmented like the proximal part of siphunculi, with 7–11 setae.

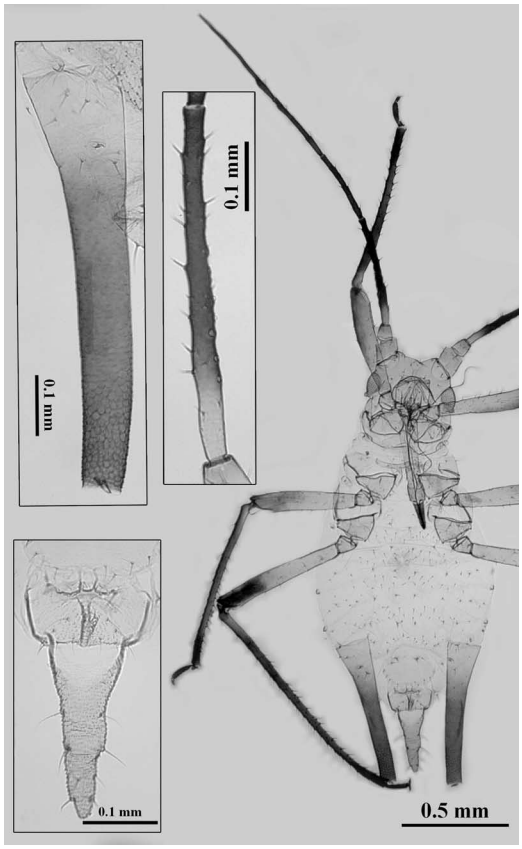
Description

Apterous viviparous females

Based on 14 specimens. Colour in life green with partially dark brown siphunculi, legs, and antennae and greenish white cauda. Body length 1.70–2.20 mm. Head brownish yellow, like

coxae, and dorsally smooth; lateral tubercles weakly developed and delimiting a small frontal sinus, median frontal tubercle feebly developed. Dorsal-cephalic setae pale, 20–30 µm long, 1.0–1.5 times *D*, with apex blurred or slightly clavate, similar in shape to antennal, femoral, tibial, and dorsothoracic and dorsoabdominal ones; usually 4 on posterior part of dorsum but sometimes more, 5 or 6. Antennae 1.87–2.03 mm long and 0.9–1.2 times body length, dark brown to black except for AntI, AntII, and the very proximal part of AntIII, which are as pale as cephalic dorsum; AntIII 0.43–0.55 mm long with 7–11 small and irregular secondary sensoria, ventrally grouped on 44%–63% of its length (one specimen has 21 sensoria on one antenna extended to 92%), and setae 25–30 µm long, 1.0–1.5 times *D*; AntIV and AntV 0.30–0.41 and 0.28–0.40 mm long, respectively; AntVIpt 0.44–0.58 mm long, 0.9–1.2 times Ant III and 3.7–4.9 times AntVIb, which is 0.11–0.14 mm. Rostrum extends near to hind coxae, in general pigmented like cephalic dorsum and clypeus. Urs nearly as dark as antennal flagellum, 0.13–0.15 mm long, 2.0–3.3 times its basal width, 1.0–1.3 times AntVIb and 1.2–1.3 times Ht2, which is 0.10–0.12 mm; with 6–11 setae. Coxae and trochanters and beginning of femora brownish yellow (femoral pigmentation progressively increases to apex, mainly dorsally), tibiae brown with a small basal portion pale like femora and a distal area dark brown like tarsi; hind femur and tibia 0.54–0.65 and 1.00–1.20 mm long, respectively. First tarsal segments with 5 setae. Marginal papillae and dorsal sclerites absent. Dorsal setae on AbdI–AbdV, 2–4(5) marginal each side and 4–8 spinal-pleural, 25–35 µm long, 1.0–1.6 times *D*. Ventral-abdominal setae, 16–26 per segment, longer and not much thinner than dorsal ones, with blurred apex. Siphunculus very robust (approximately 2 times larger than hind tibiae), 0.58–0.80 mm long, 2.1–2.6 times cauda and 1.3–1.6 times AntIII, subcylindrical (somewhat inflated at the beginning of the reticulation), with small enlarged base (1.6–2.3 times the width at the beginning of the reticulation), slightly curved outside, without flange, approximately basal 1/4 as pale as coxae and rest as dark as tibiae or antennae, nearly smooth on pale part, progressively wrinkly to scaly on dark part basal to reticulation, which extends on 21%–31%(35%) of length of siphunculus, with 80 to 140 cells. Genital plate pale, more or less like anal plate, with 2–5 discal and 6–10 posterior setae, similar in length. Cauda yellowish to very light brown, darker than genital plate, long-triangular, 0.26–0.33 mm long, 2.0–2.5 times its basal width, and with 7–11 long and strong setae.

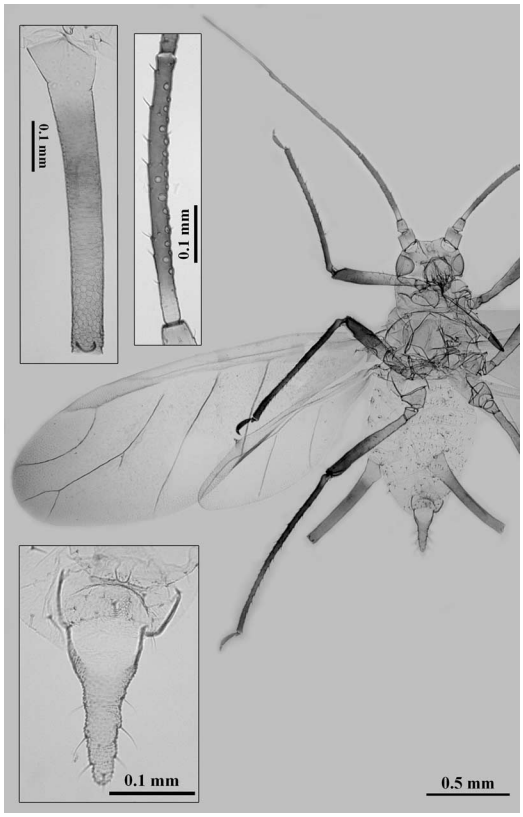
Fig. 10. *Uroleucon riojanum*, apterous viviparous female, habitus and details of AntIII, siphunculi, and cauda.



Alate viviparous females

Based on 5 specimens. Body length 1.75–2.03 mm. Similar to the apterous females but thorax also brownish yellow and more extensive pigmentation on femora; pointed ventral-abdominal setae; shorter setae on vertex, AntIII, and AbdIII (20–23, 20–30, and 20–35 µm, respectively); relatively longer Urs (1.1–1.4 times Ht2), shorter siphunculi (0.55–0.62 mm, 1.1–1.3 times AntIII), and cauda (0.24–0.28 mm, 1.8–2.1 its basal width); and longer reticulated portion of siphunculi (27%–41%). Sometimes only three setae on some tarsi. AntIII with 18–26 secondary sensoria,

Fig. 11. *Uroleucon riojanum*, alate viviparous female, habitus and details of AntIII, siphunculi, and cauda.



circular in shape, and extended on 78%–92% of article. Medial of front wings with three branches.

Bionomics

Specimens are aligned on the leaves, apparently without any preference for sides, of *Gutierrezia iserni*, or on branches and stems that are not too thick. This plant is a native Asteraceae distributed in several provinces of western Argentina (Zuloaga and Morrone 1999). The aphid should be monoecious, as are all species of the genus, and it is probably holocyclic.

Geographical distribution

The only known locality for the species is Chilecito (La Rioja province) on the "Cuesta de Miranda" mountain pass (29°19′S, 67°46′W, 2020 m). The species may colonize plants of *Gutierrezia* or related genera in northwestern Argentina at a similar altitude.

Taxonomic discussion

The five new species can be distinguished from one another and from other species of the genus by qualitative (for instance shape, ornamentation, pigmentation, and coloration when alive) and quantitative (metric and meristic) characters, which are presented in the respective diagnoses and shown in the following identification key.

Following the classical criteria for subgeneric classification, *Uroleucon malarguense*, *U. patagonicum*, *U. mendocinum*, and *U. payuniense* could be included in the nominotypical subgenus, the former two definitely and the latter two doubtfully, while *U. riojanum* could be placed in the subgenus *Lambersius*. But considering the conclusions by Carvalho *et al.* (1998) and Moran *et al.* (1999) (see the Introduction), we find it more appropriate to group the native South American species of the genus *Uroleucon* — *U. brevisiphon*, *U. chilense*, *U. essigi*, *U. eumadiae*, *U. garnicai*, *U. gochnatiae, U. macolai*, *U. malarguense*, *U. mendocinum*, *U. muermosum*, *U. nuble*, *U. patagonicum*, *U. payuniense*, *U. petrohuense*, *U. pseudomuermosum*, *U. riojanum*, *U. tessariae*, and *U. tucumani* — in the subgenus *Lambersius* because of the pigmentation of coxae, a character shared with the type species of the subgenus, *Uroleucon erigeronense*.

In the future, another classification could be established, one congruent with the evolutionary history of the genus, based on morphological-statistical and molecular studies of species, which represent the different classical subgenera and different geographical origins (Eurasia, North America, South America). And so, these South American species may be grouped in a different subgenus, perhaps one that is exclusive for them.

Key to viviparous females of species of *Uroleucon* in South America

This key is based on the key by Carvalho *et al.* (1998). The little-known species *U. aaroni*, which is doubtfully present in Chile, and *U. littorale*, which was described from Concordia, Entre Ríos

province, and never caught again, have not been included in the key; it is highly likely that their respective placements in the key are near couplets 22 and 19.

In brackets are (*i*) morphological and biological data that do not have correspondence in the other proposition of the disjunctive but that are useful to secure identification; and (*ii*) information on distribution, countries for South America and provinces for Argentina, including Buenos Aires Federal Capital in Buenos Aires province.

1. Coxae wholly dark brown to black, as pigmented or nearly as pigmented as distal apices of femora and tibiae and entire or distal part of siphunculi. Siphunculi dark brown to black, homogeneous in pigmentation or with middle portion less dark than proximal and distal portions, and then cauda lanceolate [Introduced Old World species] 2
— Coxae yellowish brown to brown, usually less pigmented than distal area of femora, but if darker then less pigmented than distal part of siphunculi. Siphunculi variably pigmented, if the middle part is not as dark as proximal and distal parts then cauda triangular [American species: native South American species or introduced North American species] 5
2. Cauda yellow, paler than dark brown siphunculi (in apterae they are often paler in the middle portion). Urs 0.7–1.0 times Ht2. Setiferous sclerites usually absent on the abdominal dorsum. [Apterae with 9–35 secondary sensoria on basal 34%–64% of AntIII, and alatae with 30–65 secondary sensoria over AntIII. Dark bronze-brown in life. On *Sonchus* spp. and exceptionally on other Asteraceae, for example *Lactuca sativa* and *Cichorium intibus*. Colombia, Venezuela, Brazil, Chile; Argentina: Buenos Aires, Córdoba, Mendoza, San Juan (?), San Luis (?), Santa Cruz, Santa Fe, La Rioja] . . . . . *U. sonchi*
— Cauda and siphunculi dark brown or nearly black. Urs 1.1–1.6 times Ht2. Setiferous sclerites present on abdominal dorsum 3
3. Hind femora with basal 20%–30% yellowish, distal part dark brown, and a gradual transition between. Tibiae with markedly paler middle portion. Apterae with 33–86 secondary sensoria on 70%–95% of AntIII. Marginal papillae absent. Shining, very dark red, almost black in life. On species of several genera of Asteraceae, usually not on Cardueae. [Venezuela, Surinam, Chile; Argentina: Buenos Aires, Córdoba, Jujuy] . . . . . *U. compositae*
— Hind femora with about the basal 40%–60% yellowish, distal part dark brown, with a rather abrupt transition between. Tibiae without a yellowish middle portion. Apterae with 16–45 secondary sensoria on 37%–70%(88%) of AntIII. Marginal papillae present or absent. Dark bronze-black in life. On species of Cardueae 4
4. Hind tibiae of apterae with yellowish or pale brown proximal section and dark distal portion. Abdominal papillae present, usually large and placed on marginal sclerites. On species of *Carduus* and *Cirsium*. [Argentina: Chubut, Mendoza, Neuquén, San Luis, Santa Fe] . . . . . *U. aeneum*
— Hind tibiae of apterae dark over whole length. Abdominal papillae usually absent, but small if present. On species of *Centaurea*. [Subspecies *U. j. jaceae* has been recorded from Argentina: Mendoza, Neuquén] . . . . . *U. jaceae*
5. AntVIpt longer than 1.2 mm (1.3 mm in the only aptera known). Siphunculi at least 2.3 times longer than cauda, thin, brown with a pale proximal portion, and reticulated at most on 15% of total length. [Probably pale green in life. On unknown composite. Chile] . . . . . *U. nuble*
— AntVIpt shorter than 0.95(1.00) mm. Siphunculus shorter or longer than 2.3 times caudal length, but if longer it has a different appearance or pigmentation or reticulation 6
6. Distal setae on cauda shorter than other caudal setae and usually blunt or clavate. Dorsal-cephalic setae 18–36 µm long. [Greenish yellow to yellowish pale green in life. Siphunculi with paler proximal portion, more evident in alatae than in apterae. AntVIpt 3.2–5.0 times AntVIb. AntIII with 4–25 secondary sensoria on proximal 1/2 in apterae, and 20–41 secondary sensoria in alatae. On species of composite genera *Baccharis*, *Conyza*, *Cosmos*, *Erigeron*, and possibly others. Nearctic introduced species; Colombia, Venezuela, Brazil, Chile; Argentina: Buenos Aires, Córdoba, Entre Ríos, Mendoza, San Luis, Santa Fe] . . . *U. erigeronense*
— Distal setae on cauda variable in length, if shorter than other caudal setae then usually pointed. Dorsal-cephalic setae usually 30–75 µm long or exceptionally down to 20–31 µm, but in this case more than 4 setae present on dorsal-posterior area of head and very robust siphunculi 7
7. Ht2 with ventral hairs on proximal 2/3 small or atrophied. [Siphunculi 1.0 to 1.2 times length of cauda. Marginal papillae present on AbdII–AbdV. AntIII with 6–13 secondary sensoria in apterae; in alatae the secondary sensoria on AntIII are protuberant. Green in life. On species of *Erigeron* and *Solidago*. Probably Neartic introduced species; Colombia, Venezuela, Brazil] . . . . . *U. gravicorne*
— Ht2 with ventral hairs on proximal 2/3 similar in shape and length to other ventral hairs on this segment and other tarsi 8
8. Urs 0.21–0.27 mm long and 1.5–1.8 times Ht2 9
— Urs 0.12–0.22 mm long and 0.8–1.4 times Ht2 10

9. Urs with 6–10 secondary setae. Dark reddish to brown or black in life. On *Senecio*. [Urs 0.23–0.27 mm long and 1.5–1.7 times Ht2. Chile] . . . . . *U. muermosum*
— Urs with 18–24 secondary setae. Shiny green in life. On *Madia chilensis* and *M. sativa*. [Urs. 0.21–0.23 mm long and 1.6–1.8 times Ht2. Chile] . . . . . *U. eumadiae*
10. Marginal papillae present and protuberant on AbdII(AbdIII)–AbdIV and AbdV. Urs with 4–5 secondary setae. [Apterae with 14–26 secondary sensoria distributed on nearly whole length of AntIII. Probably pale green in life. On unknown composite. Chile] . . . . . *U. petrohuense*
— Marginal papillae absent on AbdV, if present on AbdII–AbdIV then not protuberant. Urs usually with at least 5 secondary setae (if only 4 setae present then middle 1/3 of siphunculi paler than proximal and distal portions) 11
11. AntVIpt at most 3.8(4.1) times AntVIb. [Siphunculi reticulated on at least 35% of their length and yellowish brown to light brown, like cauda, which is lanceolate. Dark green with dark brown head. On *Gochnatia glutinosa* and *Hyaloceris cinerea*. Argentina: La Rioja, Mendoza, Tucumán] . *U. gochnatiae*
— AntVIpt usually at least 3.9 times AntVIb; if 3.1–3.9 times then siphunculi very robust and brown with proximal portion contrastingly pale, or brown to dark brown frequently with an intermediate portion paler than rest and darker than cauda, which is triangular or long-pentagonal 12
12. AntIII in apterae with 2–4 small secondary sensoria extended to 33%(44%) of the segment length, which is short, 0.49–0.61 mm long (alatae unknown). [Papillae absent. Setiferous and postsiphuncular sclerites present. Coxae more pigmented than trochanters and proximal 1/2 to 2/3 of femora. Tarsi with 5 setae. Siphunculi 1.5–1.7 times length of cauda, with groups of spinules homogeneously distributed to the reticulated portion, which is 19.6%–25.5% of the total length. Cauda light brown and with 9–14 setae. Brown to red-brown in life. On *Hypochoeris*. Argentina: Mendoza] . . . . . *U. malarguense*
— AntIII of both apterae and alatae usually with 5 or more secondary sensoria, if apterae have 2–4 secondary sensoria then papillae present and postsiphuncular sclerites absent 13
13. Siphunculi usually at least 1.6 times the cauda, which is 0.24–0.45 mm long and has 7–12(15) setae; if 13–15 setae are present then cauda triangular or long-pentagonal and more than 4 setae on posterior part of cephalic dorsum 14
— Siphunculi usually at most 1.6 times the cauda, which is 0.30–0.83 mm long with 9–31 setae 20
14. Siphunculi very robust (approximately 2 times larger than hind tibiae and 0.58–0.80 mm long), subcylindrical (somewhat inflated at beginning of reticulation), slightly curved outside, without flange, approximately basal 1/4 as pale as coxae and rest brown to dark brown (as dark as tibiae or antennae), nearly smooth on pale proximal portion, progressively wrinkly to scaly on dark middle portion, and reticulation extends on 21%–41% of their length. On *Gutierrezia iserni*. [Green in life. Argentina: La Rioja] . . . . . *U. riojanum*
— Siphunculi with different feature, usually as large as hind tibiae or thinner than them 15
15. Posterior part of cephalic dorsum (behind two discal setae of vertex) with 6–10 setae 16
— Posterior part of cephalic dorsum (behind two discal setae of vertex) usually with 4 setae (the general feature in the genus) 17
16. AbdII–AbdIV with 6–12 marginal setae each side and 16–27 spinal-pleural setae. Siphunculi yellowish or very light brown with paler proximal 1/4. Cauda lanceolate and 0.27–0.37 mm long. Green in life. On *Grindelia chiloensis*. [Argentina: Mendoza] . . . . . *U. payuniense*
— AbdII–AbdVI with 1–2 marginal setae each side and 5–13 spinal-pleural setae. Siphunculi brown to dark brown in general, often with a middle portion paler than both proximal and distal portions. Cauda triangular or long-pentagonal, 0.22–0.30 mm long. Red in life with siphunculi dark brown. On *Mutisia spinosa*. [Argentina: Chubut and Río Negro] . . . . . *U. patagonicum*
17. First tarsal segments with 3 hairs. Apterae with 2–8 secondary sensoria restricted to proximal 1/2 of AntIII. [AntVIpt 3.5–5.9 times AntVIb. Siphunculi shorter than 1.8 times caudal length. AntIII of alatae with 6–22 secondary sensoria. Pale to medium green in life. On *Baccharis* species and *Hysterionica jasionoides*. Chile. Argentina: La Rioja, Mendoza, San Juan] . . . . . *U. essigi*
— First tarsal segments usually with 4 or 5 setae, if only 3 setae present then siphunculi 1.8–2.2 times caudal length and AntVIpt 5.5–6.6 times AntVIb. Apterae with 4–16 secondary sensoria extending over most of length of segment 18
18. AntVIpt 5.5–6.6 times AntVIb. First segment of tarsi with 3–5 setae. Siphunculi yellowish brown to light brown. Pale green in life. On *Tessaria absinthioides*. [Chile; Argentina: Mendoza, San Juan] *U. tessariae*
— AntVIpt 4.0–5.3 times AntVIb. First segment of tarsi always with 5 setae. Siphunculi brown to dark brown. Reddish brown, brown, or blackish brown when alive 19
19. Urs 0.8–1.0 times Ht2, which is 0.14–0.17 mm long. Setae on AntIII 30–40 μm long. Cauda usually 0.30–0.38 mm long, but down to 0.25 mm on some alatae. Brown in life. On *Eupatorium* spp., mainly *E. bunifolium*. [Argentina: Córdoba, La Rioja, Mendoza, Tucumán] . . . . . *U. garnicai*
— Urs 1.0–1.2 times Ht2, which is 0.12–0.15 mm long. Setae on AntIII 17–30 μm long. Cauda 0.24–0.35 mm long. Red-brown, dark brown, or blackish brown in life. On several species of *Baccharis*,

Bidens, and *Conyza* and *Perthenium histerophorus*. [Brazil; Argentina: Córdoba, Entre Ríos, La Rioja, Mendoza, San Juan, San Luis, Tucumán] . . . . . *U. tucumani*

20. Siphunculi shorter than 1.1 times cauda (respectively 0.35–0.55 and 0.36–0.52 mm long), which is conspicuously darker than coxae. [Urs shorter than AntVIb. AbdII–AbdIV with marginal papillae. Green in life. On *Baccharis* spp. Chile] . . . . . *U. brevisiphon*

— Siphunculi longer than 1.1 times cauda; if they are 1.1 times cauda, cauda is yellowish, similar to coxae and contrasting with siphunculi and distal part of femora 21

21. Cauda yellow, contrasting with dark brown to black siphunculi and distal 1/4 to 1/2 of hind femora. [Siphunculi 1.1–1.5 times cauda, which is 0.40–0.75 mm long. Urs longer than both AntVIb and Ht2] 22

— Cauda light brown or darker and not contrasting with siphunculi and (or) distal portion of hind femora 23

22. Proximal 1/3–1/2 of siphunculi clearly paler than rest. Bright orange-red in life. On *Rudbeckia* spp. [Nearctic introduced species. Brazil] . . . . . *U. rudbeckiae*

— Siphunculi wholly dark brown, exceptionally paler at extreme base. Dull red to red-brown in life. On species of several genera of Asteraceae. [The nominotypical species is Nearctic; the subspecies *lizerianum* is known from Colombia, Venezuela, Peru, Brazil, Chile; Argentina: Buenos Aires, Chubut, Córdoba, Entre Ríos, Mendoza, Río Negro, Salta, San Luis, Santa Fe, Tucumán] . . . . . *U. ambrosiae*

23. Urs (0.16–0.20 mm long) 1.1–1.3 times length of Ht2 24

— Urs (0.12–0.18 mm long) 0.8–1.1 times length of Ht2 25

24. AntVIpt at most 5.9 times as long as AntVIb (exceptionally up to 6.1 times as long in some alatae) and usually shorter than 5.4 times in apterae. AntI and AntII as dark as most of antennal flagellum. Setiferous and postsiphuncular sclerites present and well pigmented. AntIII with 18–29 and 24–39 secondary sensoria in apterae and alatae, respectively. [On *Baccharis* spp. Chile] . . . . . *U. pseudomuermosum*

— AntVIpt at least 6.0 times as long as AntVIb. AntI and AntII paler than most of antennal flagellum. Dorsal abdominal sclerites usually absent, if present then pale. AntIII with 7–19 and 14–36 secondary sensoria in apterae and alatae, respectively. Brown in life. [On *Baccharis* and *Eupatorium* spp. Chile; Argentina: Entre Ríos]. . . . . *U. chilense*

25. AntIII of apterae with 15–35 secondary sensoria distributed over nearly whole length of segment. Green in life. [In apterae, siphunculi brown to dark brown, always on whole length, and scaly or wrinkly basally to reticulation (pigmented specimens), or yellowish brown to brown with nearly smooth middle portion (pale specimens); cephalic dorsum, AntI, AntII corrugated, and more proximal portion of AntIII tenuously wrinkly in well-pigmented specimens and not as evident in pale ones; setiferous sclerites present in darkest specimens but marginal ones do not coalesce to form patches. In alatae, AntIII with (19)28–35 secondary sensoria; marginal patches present, but usually small and poorly pigmented. On species of several composite genera: *Baccharis*, *Buva*, *Conyza*, *Erigeron*, *Hysterionica*, and *Tanacetum*. Peru, Brazil, Chile; Argentina: Buenos Aires, Chubut, Córdoba, Entre Ríos, Mendoza, Río Negro, San Luis, Tucumán] . . . . . *U. bereticum*

— AntIII of apterae with 7–22(29) secondary sensoria extended at most on 2/3 of its length. Brown or reddish brown in life 26

26. In apterae, AntIII with 12–22(29) secondary sensoria extended at most on 2/3 of its length; siphunculi brown to dark brown but often with a paler proximal portion, darker than cauda, nearly smooth or corrugated on the proximal portion and tenuously scaly on the middle portion; dorsum of the head, AntI, and AntII corrugated and more proximal portion of AntIII wrinkly; and setiferous sclerites usually present on dorsum of thorax and abdomen, sometimes the marginal ones coalesce to form small patches. In alatae, Ant III with (20)26–36 secondary sensoria; setiferous sclerites present and marginal patches present and well pigmented. Reddish brown in life. [On *Baccharis juncea*. Argentina: Mendoza] . . *U. mendocinum*

— In apterae, AntIII with 7–15 secondary sensoria restricted to proximal 1/2 of segment; siphunculi yellow to dark brown, always on whole length, and scaly or wrinkly basal to the reticulation; dorsum of the head and AntI–AntIII more or less smooth; setiferous sclerites usually present, but marginal coalescent patches absent. In alatae, AntIII with 11–24 secondary sensoria; marginal patches present, but usually small and poorly pigmented. Brown in life. [On several species of *Baccharis* and also on species of *Buva*, *Erigeron*, *Hysterionica*, and *Proustia*. Bolivia, Chile; Argentina: Córdoba, Mendoza, Neuquén, Río Negro, San Juan] . . . . . *U. macolai*

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